

○Results of Radioactive Material Monitoring of Aquatic Organisms (Location G in Lake Hayama)

< Location G in Lake Hayama: Samples collected >

Locations	General items		Radioactive materials			
	Water	Sediment	Water(Cs)	Water(Sr)	Sediment(Cs)	Sediment(Sr)
G-1	○	○	○	○	○	○
G-2	-	○	-	-	○	-
G-3	○	○	○	○	○	-
G-4	-	○	-	-	○	-
G-5	○	○	○	-	○	-

< Location G in Lake Hayama: Site measurement item >

Locations	Latitude and longitude of the location		Survey date and time		Water				Sediment			Other	
	Scheduled latitude	Scheduled longitude	Date	Time (water)	Time (sediment)	Water temperature (degrees C)	Sediment temperature (degrees C)	Property	Color	Contaminants	Water depth(m)	Transparency (m)	
G-1(Surface layer)	37.7321°	140.8127°	2015/8/24	11:15	11:32	25.5	20.4	Ooze	7.5Y 4/2	Plant	4.9	3.0	
G-1(Deep layer)	37.7321°	140.8127°		11:15		25.4							
G-2	37.7267°	140.8223°		13:30	13:41	12:50	10.3	Ooze	7.5Y 4/2	Plant	-	-	
G-3(Surface layer)	37.7302°	140.8307°											25.4
G-3(Deep layer)	37.7302°	140.8307°		13:30	25.2								
G-4	37.7382°	140.8035°		9:55	19.4	Sand	7.5Y 4/3	Plant	-	-			
G-5(Surface layer)	37.7341°	140.8088°		10:20	25.4	Sediment with sand gravel	7.5Y 3/2	Plant	4.5	3.0			
G-5(Deep layer)	37.7341°	140.8088°		10:20	25.4								

< Location G in Lake Hayama: General survey items/Analysis of radioactive materials Water >

Locations	Latitude and longitude of the location		Survey date and time		pH	BOD (mg/L)	COD (mg/L)	DO (mg/L)	Electrical conductivity (mS/m)	Salinity	TOC (mg/L)	SS (mg/L)	Turbidity (FNU)	Cs-134 (Bq/L)	Cs-137 (Bq/L)	Sr-90 (Bq/L)	
	Scheduled latitude	Scheduled longitude	Date	Time (water)													
G-1(Surface layer)	37.7321°	140.8127°	2015/8/24	11:15	7.5	1.1	4.6	8.6	7.2	0.04	2.0	2	2.1	0.011	0.042	-	
G-1(Deep layer)	37.7321°	140.8127°		11:15	7.6	1.3	4.3	7.9	7.2	0.04	1.9	3	2.0	0.015	0.062	0.0012	
G-3(Surface layer)	37.7302°	140.8307°		13:30	13:41	7.6	0.9	4.5	8.8	7.2	0.04	2.0	3	2.2	0.0096	0.032	-
G-3(Deep layer)	37.7302°	140.8307°															
G-5(Surface layer)	37.7341°	140.8088°		10:20	7.7	0.8	4.3	8.4	7.2	0.04	1.8	2	1.8	0.020	0.077	-	
G-5(Deep layer)	37.7341°	140.8088°		10:20	7.6	0.9	4.1	8.0	7.4	0.05	1.9	2	2.0	0.011	0.044	-	

< Location G in Lake Hayama: General survey items/Analysis of radioactive materials Sediment >

Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential EN.H.E (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm3)	Grain size distribution							Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)	
	Scheduled latitude	Scheduled longitude	Date	Time (sediment)							Gravel (2-75mm) (%)	Coarse sand (0.85-2mm) (%)	Medium sand (0.25-0.85mm) (%)	Fine sand (0.075-0.25mm) (%)	Silt (0.005-0.0075mm) (%)	Clay (Less than 0.005mm) (%)	Median grain diameter				Maximum grain diameter
G-1	37.7321°	140.8127°	2015/8/24	11:32	6.4	106	84.1	30.4	116.0	2.293	0.0	0.1	0.1	6.5	62.5	30.8	0.013	2.0	3200	13000	1.5
G-2	37.7267°	140.8223°		12:50	6.5	34	75.9	15.1	43.1	2.555	0.0	0.4	0.4	0.7	42.9	55.6	0.0035	2.0	3200	13000	-
G-3	37.7302°	140.8307°		13:41	6.9	85	53.3	8.5	19.5	2.663	8.9	10.1	15.5	11.4	28.0	26.1	0.047	9.5	1100	4200	-
G-4	37.7382°	140.8035°		9:55	6.7	430	30.3	2.6	3.1	2.718	10.4	25.4	53.5	6.0	0.7	4.0	0.69	19	480	1900	-
G-5	37.7341°	140.8088°		10:33	6.6	202	44.3	7.3	7.1	2.665	15.4	23.0	26.6	16.9	6.7	11.4	0.44	9.5	660	2700	-

< Location G in Lake Hayama: Analysis items Aquatic organisms >

Location	Sampling point	Latitude and longitude of the location		Sampling Date	Division	Class	Order	Family	Species name	English name	Population	Sample weight (kg-wet)	Note			Radioactive cesium(Bq/kg-wet)		Sr-90 (Bq/kg-wet)			
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site	Cs-134	Cs-137				
G-1	In the lake	37.7321°	140.8127°	H27.8.24	Phycophyta	-	-	-	-	Plankton (Planktonic algae)	-	0.030	-	-	-	3.6	14	-			
G-2					37.7267°	140.8223°	H27.9.5	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius sp.</i>	Carassius auratus langsdorffii	1	0.15	Mature fish (2-year-old)	Empty stomach	Viscera removed	24	93	-
G-3					37.7302°	140.8307°		Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Small mouth bass	1	0.68	Mature fish (4-year-old)	Carassius	Viscera removed	61	240	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus salmoides</i>	Largemouth bass	1	1.3	Mature fish (4-year-old)	Empty stomach	Viscera removed	120	480	1.3			
					Phycophyta	-	-	-	-	Riverbed Deposits (include algae)	-	0.060	-	-	-	340	1300	-			
					Arthropod	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	Macromia amphigena											
					Arthropod	Insecta	Odonata	Cordulegastriidae	<i>Anotogaster sieboldii</i>	Anotogaster sieboldii											
					Arthropod	Insecta	Odonata	Gomphidae	<i>Nihonogomphus viridis</i>	Nihonogomphus viridis	181	0.030	Larva (dragonfly larva)	-	-	14	48	-			
					Arthropod	Insecta	Odonata	Gomphidae	<i>Onychogomphus viridicostus</i>	Onychogomphus viridicostus											
					Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Sieboldius albardae											
					Arthropod	Insecta	Odonata	Gomphidae	-	-											
					Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	Parastenopsyche sauteri	173	0.044	Larva	-	-	47	180	-			
					Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Stenopsyche marmorata											
					Arthropod	Insecta	Megaloptera	Corydallidae	<i>Protohermes grandis</i>	Protohermes grandis	17	0.011	Larva	-	-	8.6	30	-			
					Arthropoda	Malacostraca	Decapoda	Atyidae	<i>Paratya improvisa</i>	Freshwater shrimp	326	0.049	Imago	-	-	14	57	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	16	0.14	Mature fish (2.3-year-old)	Ephemeroptera	Viscera removed	18	73	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	37	0.015	Immature fish (0-year-old)	-	-	17	59	-			
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Yamame trout	11	0.053	Immature fish (0-year-old)	-	-	18	67	-			
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Small mouth bass	1	0.28	Mature fish (2-year-old)	Fish	Viscera removed	33	140	-			
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius flumineus</i>	Rhinogobius flumineus	20	0.046	Mature fish	-	-	20	88	-			
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius flumineus</i>	Rhinogobius flumineus	109	0.033	Immature fish	-	-	12	46	-			
					Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.13	-	-	-	71	280	-			

*1: Organisms were collected in or around the targeted water areas.

*2: When multiple types of aquatic organisms were collected, a sample was prepared by mixing them.

*3: For a sample made of multiple types of aquatic organisms, the name of the dominant one largest in number is underlined.

*4: Basically, measurement was conducted for all organism samples. Viscera (stomach and bowels) were removed for the measurement when possible so that undigested food and sediments, etc. in the digestive system would be excluded.

*5: A statement in red in the "Growth stage" column shows the age assessed based on squama or otolith.

*6: Plankton (suspended algae) is the residue remaining after the filtration of lake water or seawater with a plankton net (40µm-mesh).

*7: River bottom materials (incl. algae) are algae, etc. that were scratched off stones with a brush, etc. and may include very fine particles such as inorganic silt and clay.

*8: N.D. means to be below the detection limit and figures in parentheses show the detection limit.

*9: Activity concentrations include counting errors, but the details are omitted here.